

material selected from the group consisting of Si, Ge, GaP, IP, GaAs, InAs, GaSb, InSb, In-Sn oxide, tin oxide, indium oxide, zinc oxide, titanium oxide, Sb-Sn oxide, or combinations thereof disposed on the substrate; and

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CONT. a reflecting layer disposed on the transparent layer, which is reactive (optically or thermally) with the transparent layer of the predetermined thickness to form a semi-transparent reflective area of alloy/compound near the interface of transparent layer and reflecting layer after the optical recording medium is exposed to the optical beam, wherein the semi-transparent reflective area activates a mechanism that produces positive or negative optical contrast before and after recording.

B2 16. (Twice Amended) A method of optically recording information on an optical recording medium comprising a substrate, a transparent layer having a predetermined thickness that is reactive (optically or thermally) with a reflecting layer disposed thereon to form a semi-transparent reflective area of alloy/compound near the interface therebetween, comprising a material selected from the group consisting of Si, Ge, GaP, InP, GaAs, InAs, GaSb, InSb, In-Sn oxide, tin oxide, indium oxide, zinc oxide, titanium oxide, Sb-Sn oxide, or combinations thereof disposed on the substrate, and a reflecting layer reactive (optically or thermally) with the transparent layer of the

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cont. predetermined thickness disposed on the transparent layer, which comprises irradiating the transparent layer of the predetermined thickness and reflecting layer with an optical beam to form a semi-transparent reflective area of alloy/compound therebetween, wherein the semi-transparent reflective area is able to activate a mechanism that produces positive or negative optical contrast before and after recording.

Please add the following claims:

~~27.~~ 27. An optical recording medium for recording and retrieving information with an optical beam comprising:

a substrate;

a transparent layer comprising at least an oxide disposed on the substrate; and

B3 a reflecting layer disposed on the transparent layer, which is reactive (optically or thermally) with the transparent layer and forms a semi-transparent reflective area of alloy/compound near the interface of transparent layer and reflecting layer after the optical recording medium is exposed to the optical beam, wherein the semi-transparent reflective area activates a mechanism that produces positive or negative optical contrast before and after recording.--

--28. The optical recording medium of claim 27, wherein the oxide is selected from the group consisting of In-Sn oxide, tin oxide, indium oxide, zinc oxide, titanium oxide, Sb-Sn oxide, or combinations thereof.--

--29. The optical recording medium of claim 27, wherein the mechanism distorts optical constants ( $n$  &  $k$ ) and thereby alters the overall reflective intensity.--

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cont. --30. The optical recording medium of claim 27, wherein the mechanism reduces the effective thickness of the transparent layer and changes the optical-path of the incident and reflected light from the optical beam, thereby shifting constructive or destructive interference and altering the reflective intensity by the semi-transparent reflective area.--

--31. The optical recording medium of claim 27, wherein the mechanism transforms the polarization angle and thereby alters the reflective intensity by the semi-transparent reflective area.--

--32. The optical recording medium of claim 27, wherein the transparent layer has a thickness ranging from 5 to 500 nm.--

--33. The optical recording medium of claim 27, wherein the reflecting layer has a thickness ranging from 1 to 500 nm.--

--34. The optical recording medium of claim 27, wherein the reflecting layer comprises a material selected from the group consisting of Ag, Al, Au, Pt, Cu, In, Sn, W, Ir, Re, Rh, Ta, and their alloys, or combinations thereof.--

--35. The optical recording medium of claim 27, further comprising a thermal-manipulating layer between the substrate and the transparent layer.--

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cont. --36. The optical recording medium of claim 27, further comprising a protective layer disposed on the reflecting layer.--

--37. The optical recording medium of claim 36, further comprising a thermal-manipulating layer between the reflecting layer and the protective layer.--

--38. The optical recording medium of claim 27, wherein the semi-transparent reflective area is more reflective than the reflecting layer.--

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cont

--39. The optical recording medium of claim 27, wherein the semi-transparent reflective area is less reflective than the reflecting layer. --

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